

**REMARKS**

Status of the claims

Claims 1, 3, 5, 7-11, 19-21 and 29 stand rejected.

Applicants gratefully acknowledge the presence of allowable subject matter, namely claims 27, 28, 30 and 31, by the Examiner. Also, the Examiner states on page 13 of the OA, that claim 2 is objected to but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Additionally, the Examiner states on page 14 of the OA that cancellation of the sequences contained in claim 2 may be avoided by requiring a combination of allowable SEQ ID NO:16 and any of the non-elected sequences. Applicants thank the Examiner for her helpful suggestions.

*Prior to this amendment.*

Claims 1-3, 5, 7-11, 19-21 and 27-31 are pending. Claims 4, 6, 12-18 and 22-26 have been cancelled, without prejudice or disclaimer.

*Upon entry of this amendment.*

Claims 1-26 and 29 have been cancelled, without prejudice or disclaimer. Claims 32 and 33 have been added.

Amendments to the specification

The specification has been amended to add a statement regarding federally sponsored research. No new matter has been added by way of this amendment.

Amendments to the claims

Claim 32 and 33 have been added. Support for these claims can be found with the claims as originally filed. No new matter has been added by way of these amendments.

Outstanding rejections

The Examiner has rejected Claim 29 under 35 U.S.C. §101 because the claimed invention is allegedly directed to non-statutory subject matter.

Although Applicants do not necessarily agree with the Examiner, in an effort to expedite prosecution, claim 29 has been cancelled, making the rejection moot.

Claim 29 is rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by GenBank®GI: 927059 (09-April-1996 [online], retrieved on June 4, 2007], retrieved from the internet: <URL:www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&id=927059) as evidenced by Benson et al. (Nucleic Acids Research (2000) 28(1): 15-18).

Although Applicants do not necessarily agree with the Examiner, in an effort to expedite prosecution, claim 29 has been cancelled, making the rejection moot.

Claims 1, 3, 5, 7, 10, 11, and 19-21 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Kerwin et al. (US Patent No. 6,156,763) in view of Matsugami et al. (Journal of Molecular Biology (October 2001) 313(2): 255-269).

Although Applicants do not necessarily agree with the Examiner, in an effort to expedite prosecution, claims 1, 3, 5, 7, 10, 11, and 19-21 have been cancelled, making the rejection moot.

Claims 8 and 9 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Kerwin et al (US Patent No. 6,156,763) in view of Matsugami et al. (Journal of Molecular Biology (October 2001) 313(2): 255-269) and further in view of Williams et al. (Analytical Biochemistry(1989) 176: 28-32).

Although Applicants do not necessarily agree with the Examiner, in an effort to expedite prosecution, claims 8 and 9 have been cancelled, making the rejection moot.

Claims 1, 3, 5, 7-11, 19, and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being allegedly unpatentable over claims 93, 94, 96, 99-103

of copending Application No. 10/407,449 in view of Matsugami et al. (Journal of Molecular Biology (October 2001) 313: 255-269).

Although Applicants do not necessarily agree with the Examiner, in an effort to expedite prosecution, claims 1, 3, 5, 7-11, 19, and 21 have been cancelled, making the rejection moot.

**CONCLUSION**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejections and objection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 532232000500. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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